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APPLICATION NO. 1187533, 332	FILING DATE 03/05/99	FIRST NAMED INVENTOR CLOUD	ATTORNEY DOCKET NO. R ZI056/96001
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EXAMINER DOERRLER, W

ART UNIT 3744	PAPER NUMBER 5
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DATE MAILED: 11/19/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/983,332

Applicant(s)

Cloud

Examiner

William C. Doerrler

Group Art Unit

3744



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-6 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-3 is/are rejected.

☒ Claim(s) 4-6 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. The priority from the US provisional application is acknowledged.

Specification

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Objections

3. Claims 4-6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim must refer to claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is confusing to claim how the conduits are connected then claim the conduits preceded by "a". This presents an antecedent basis problems. In line 2 of claim 2, "a suction accumulator" is confusing since it is unclear if this is the same accumulator that was claimed in claim 1. In line 3 of claim 3, "of the too the refrigerant conduit" is confusing. The same is true of "too fourth refrigerant conduit". In line three of claim 3, "of tire sixth refrigerant" is confusing.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Cook et al or Harnish et al in view of Dickieson.

Cook et al and Harnish et al each disclose applicant's basic inventive concept, a refrigeration system with a compressor, a condenser, a heat exchanger, a receiver, an evaporator, a connection through the heat exchanger, and an accumulator all connected in series, substantially as claimed with the exception of an accumulator which is heated by condensed refrigerant. Dickieson shows

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this feature to be old in the refrigeration art. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention from the teaching of Dickieson to modify the refrigeration system of either Harnish et al or Cook et al by heating the accumulator with condensed refrigerant to vaporize the liquid refrigerant in the accumulator and to cool the condensed refrigerant. In regard to the heat exchanger with inlets on the bottom, both Harnish et al and Cook et al show concurrent flow heat exchangers. A change of orientation of disclosed parts is considered obvious design choice to an ordinary practitioner in the art and not patentable invention unless a showing can be made of alleged criticality or new and unexpected results. It is seen as obvious that liquid refrigerant will pool at the bottom of an upright heat exchanger and subsequently vaporize when it is heated.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harnish et al or Cook et al as applied to claims 1 and 2 above, and further in view of Trask.

Harnish et al and Cook et al each as modified, disclose applicant's basic inventive concept, a refrigeration system with a heat exchanger after the compressor to heat refrigerant leaving the evaporator, substantially as claimed with the exception of providing a bypass for the accumulator. Trask shows this feature to be old in the refrigeration art. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention from the teaching of Trask to modify the refrigeration system of either Cook et al or Harnish et al by adding a bypass around the accumulator to improve control over the refrigeration while still ensuring only vapor refrigerant enters the compressor.

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Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ecker shows an accumulator with a condensed refrigerant heat exchanger. Batteiger shows a refrigeration system with heat exchange between refrigerant in various places in the cycle to improve efficiency.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Doerrler whose telephone number is (703) 308-0696.



**WILLIAM DOERRLER
PRIMARY EXAMINER**

William C. Doerrler
Patent Examiner
Group 3744
November 13, 1998